

Application No. 10/775,488
Amendment dated July 5, 2006
Reply to Non-Final Office Action of March 14, 2006

Amendments To the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended). A switch coupled between a plurality of host units and a device
2 for communicating there between and comprising:
3 a) a first serial advanced technology attachment (ATA) port₁ coupled to a first host
4 unit, for causing access, by the first host unit, to the device;
5 b) a second serial ATA port₁ coupled to a second host unit, for causing access by the
6 second host unit, to the device;
7 c) a third serial ATA port₂ coupled to a device, for causing access, by the first or
8 second host units, to the device; and
9 d) an arbitration and control circuit, coupled to the first, second and third ports, for
10 selecting one of the first host or second host units to concurrently access [be
11 coupled to] the device₂ through the switch, by accepting commands, from either of
12 the first or second host units, at any given time, including when the device is not
13 in an idle state [, whenever either one of the first or second host units sends
14 commands for execution thereof by the device].
15

1 Claim 2 (original): A switch as recited in claim 1 wherein said first serial ATA port
2 includes a first host task file.

1 Claim 3 (original): A switch as recited in claim 1 wherein said second serial ATA port
2 includes a second host task file.

1 Claim 4 (original): A switch as recited in claim 3 wherein said third serial ATA port
2 includes a device task file.

1 Claim 5 (original): A switch as recited in claim 3 wherein said first, second and third ports
2 are level 4 ports.

1 Claim 6 (original): A switch as recited in claim 1 wherein said device is a storage unit.

1 Claim 7 (original): A switch as recited in claim 1 wherein said switch is employed in an
2 enterprise system.

1 Claim 8 (canceled).

1 Claim 9 (original): A switch as recited in claim 1 wherein information, in the form of data,
2 commands or setup, is transferred from the device to the first or second host units
3 through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 10 (original): A switch as recited in claim 9 wherein the information is referred to as
2 'identify drive response'.

1 Claim 11 (original): A switch as recited in claim 9 wherein the information is referred to as
2 'Tag'.

1 Claim 12 (original): A switch as recited in claim 1 wherein information, in the form of data,
2 commands or setup, is transferred from the first or second host units to the device
3 through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 13 (original): A switch as recited in claim 12 wherein the information is referred to
2 as 'Tag'.

1 Claim 14 (original): A switch as recited in claim 12 wherein the arbitration and control
2 circuit include a Tag/Sactive Mapping Circuit for mapping a host tag to a device tag
3 and inverse mapping for identifying a host.

1 Claim 15 (original): A switch as recited in claim 1 wherein either the first or the second
2 host sends a legacy queue command queued by the device.

1 Claim 16 (currently amended): A switch as recited in claim 1 wherein either the first or
2 the second host sends a native queue command for [for] execution thereof by the
3 device.

1 Claim 17 (currently amended): A switch as recited in claim 16 [where] wherein the Tag
2 in the native queue command is modified prior to sending to the Device to avoid
3 using the same Tag for both hosts and not to exceed the [naximum] maximum
4 allowed Tag value.

1 Claim 18 (currently amended): A switch as recited in claim 17 [where] wherein the Tag
2 received in a FIS from the Device is modified to its original value prior to sending
3 the same to the Host.

1 Claim 19 (original): A switch as recited in claim 1 wherein the first, second and third ports
2 are level 3 serial ATA ports and a Data FIS FIFO and an associated FIFO Control are
3 coupled to the first, second and third ports and are located externally thereto.

1 Claim 20 (currently amended): A switch comprising:
2 a) a first serial advanced technology attachment (ATA) port for connection to a
3 first host unit;
4 b) a second serial ATA port for connection to a second host unit;
5 c) a third serial ATA port for connection to a device; and
6 d) an arbitration and control circuit, coupled to the first, second and third ports,
7 for selecting either the first host unit or the second host unit to [be coupled to]
8 concurrently access the device, through the switch, , by accepting commands,
9 from either of the first or second host units, at any given time, including when
10 the device is not in an idle state [when either host units sends commands for
11 execution by the device,
12 wherein while one of the first or second host units is coupled to the device,
13 through the switch, the other one of the first or second host units sends a command to the
14 switch for execution by the device].

1 Claim 21 (original): A switch as recited in claim 20 wherein the switch is a serial ATA
2 switch.

1 Claim 22 (original): A switch as recited in claim 20 wherein said first serial ATA port
2 includes a first host task file.

1 Claim 23 (original): A switch as recited in claim 22 wherein said second serial ATA port
2 includes a second host task file.

1 Claim 24 (original): A switch as recited in claim 23 wherein said third serial ATA port
2 includes a device task file.

1 Claim 25 (original): A switch as recited in claim 20 wherein said device is a storage unit.

1 Claim 26 (original): A switch as recited in claim 20 wherein said switch is employed in an
2 enterprise system.

1 Claim 27 (canceled).

1 Claim 28 (original): A switch as recited in claim 20 wherein information, in the form of
2 data, commands or setup, is transferred from the device to the first or second host
3 units through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 29 (original): A switch as recited in claim 28 wherein the information is referred to
2 as 'TAG'.

1 Claim 30 (original): A switch as recited in claim 28 wherein the information is referred to
2 as 'identity drive response'.

1 Claim 31 (original): A switch as recited in claim 20 wherein information, in the form of
2 data, commands or setup, is transferred from the first or second host units to the
3 device through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 32 (original): A switch as recited in claim 31 wherein the information is referred to
2 as 'Tag'.

1 Claim 33 (new). A method of employing a switch coupled between a plurality of
2 host units and a device for communicating therebetween, the method comprising:
3 a) coupling a first serial advanced technology attachment (ATA) port to a first
4 host unit;
5 b) coupling a second serial ATA port to a second host unit;
6 c) coupling a third serial ATA port to a device; and
7 d) selecting one of the first host or second host units concurrently access the
8 device, through the switch, by accepting commands, from either of the first or
9 second host units, at any given time, including when the device is not in an idle
10 state.

1 Claim 34 (new): A method of employing a switch, as recited in claim 33, further
2 including the steps of transferring information, in the form of data, commands or
3 setup, from the device to the first or second host units through the switch and
4 modifying the information prior to the information being received by the first or
5 second host units such that modified information rather than the information is
6 received by the first or second host units.

1 Claim 35 (new): A method of employing a switch, as recited in claim 34, wherein the
2 information is referred to as 'identify drive response'.

1 Claim 36 (new): A method of employing a switch, as recited in claim 34, wherein the
2 information is referred to as 'Tag'.

1 Claim 37 (new): A method of employing a switch, as recited in claim 34, further
2 including the steps of transferring information, in the form of data, commands or
3 setup, from the first or second host units to the device through the switch and
4 modifying the information by the switch prior to being received by the device such
5 that modified information rather than the information is received by the device.

1 Claim 38 (new): A method of employing a switch, as recited in claim 37, wherein the
2 information is referred to as 'Tag'.

1 Claim 39 (new): A method of employing a switch, as recited in claim 37, wherein
2 mapping a host tag to a device tag and inverse mapping for identifying a host.

1 Claim 40 (new): A method of employing a switch, as recited in claim 34, further
2 including the step of sending a legacy queue command queued.

1 Claim 41 (new): A method of employing a switch, as recited in claim 34, further
2 including the step of sending a native queue command for execution thereof by the
3 device.

1 Claim 42 (new): A method of employing a switch, as recited in claim 41, wherein
2 modifying the Tag in the native queue command prior to sending to the Device to
3 avoid using the same Tag for both hosts.

1 Claim 43 (new): A method of employing a switch, as recited in claim 42, wherein
2 modifying the Tag received in a FIS from the Device prior to sending the same to the
3 Host.